

FLOW DISTRIBUTING UNIT AND COOLING UNIT HAVING BYPASS FLOW**CROSS REFERENCE TO RELATED APPLICATIONS**

This application is entitled to the benefit of and incorporates by reference essential subject matter disclosed in International Patent Application No. PCT/DK2004/000736 filed on October 26, 2004 and Danish Patent Application No. PA 2003 01576 filed October 27, 2003.

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FIELD OF THE INVENTION

[0001] This invention relates to a flow distributing unit which is suitable for a variety of cooling applications, and in particular for liquid cooling of power semiconductors. The invention also relates to a cooling unit employing such a flow distributing unit.

BACKGROUND OF THE INVENTION

[0002] Semiconductor devices generate heat during their operation, and this heat usually acts to degrade the operation of the semiconductor device. For power semiconductor devices it is necessary to be cooled during operation to maintain acceptable device performance, and for high power semiconductors liquid cooling is often applied.

[0003] US 5,841,634 discloses a liquid-cooled semiconductor device. The semiconductors are here placed inside a housing on a plate which is to be cooled. The device shows a fluid inlet port and a fluid outlet port, and a baffle placed in a chamber inside the housing. The baffle includes a wall separating the chamber into a top portion and a bottom portion, and walls separating each portion into compartments. A number of holes in the wall between top and bottom portion provide fluid communication between the portions. Fluid is led from the inlet port to a first bottom compartment, and then through holes to a first top compartment.